

OR
HEO/Ex8
.4P1
:175/983
c.3

OREGON
DISCARD
STATE LIBRARY

TANSY RAGWORT

PNW 175

A Pacific Northwest
Extension Publication

Tansy ragwort, *Senecio jacobaea L.*, is one of the more serious weed problems in western Oregon and Washington. In recent years, sightings east of the Cascades and in southern Oregon have increased; and it is a potential problem for eastern Oregon, Washington, and Idaho.

Tansy ragwort was introduced into the United States from Europe. The first reported observation in Oregon was in 1922. Although the heaviest infestations of tansy ragwort are in the coast range, it has succeeded in spreading across western Oregon and Washington and up the western slopes of the Cascades, especially in heavily logged areas. In some areas it is at or near the crest and is invading areas east of the Cascades and southern Oregon. Tansy ragwort is one of the first plants to invade cutover forest lands. It is not usually found in annually-tilled fields, but can invade irrigated or nonirrigated pastures, woodland pastures, unused lands, perennial seed fields, and is found occasionally in alfalfa fields.

Tansy ragwort is found in the drier regions of Europe and Asia and in Siberia; therefore, it is believed that it can complete its life cycle successfully throughout most of the Northwest. It will survive under most soil moisture conditions, even the hot and dry summers of southern and eastern Oregon and Washington, and will overwinter successfully in areas where temperatures reach -20°F or lower.

Use of ragwort contaminated straw from western Oregon has resulted in tansy infestations on roadside improvement projects in eastern Oregon. Contaminated straw and hay brought in by hunters is a major carrier.

Lifecycle

Tansy ragwort is a biennial plant but, under some conditions, plants may live over as a perennial. Most seeds germinate in the fall, form a rosette the following year, and blossom the next year. Plants normally blossom, produce seed, and die in the second year unless cut, pulled, or broken. Damage may result in regrowth and blossoming the third year; thus, it can

be a perennial. Seeds may be viable in the soil 3 to 4 years, or even longer.

Tansy ragwort is a very conspicuous plant when it blooms. The daisy-like golden flowers have a long blossoming period. The rosette plants have irregular, lobed leaves with a visible blade region near the tip. The leaves, 5 to 9 inches long, are attached directly to the main stalk. Leaf color may vary from light to dark green. The plant spreads principally by seeds, and individual plants may have as many as 150 thousand seeds. Most of these seeds fall within a few hundred feet of the parent plant, but some are carried great distances by wind and water.

In the Pacific Northwest, cattle numbers east of the Cascades far exceed those west of the Cascades. The spread of this poisonous weed to areas east of the Cascades and to southern Oregon may result in severe losses of livestock.

Toxicity

Tansy ragwort is not highly poisonous, but all parts of the plant are poisonous to cattle and horses and, to some extent, sheep. It is reported to contain six different alkaloids, which accumulate in the liver and cause liver damage. All growth stages and all parts of the plant contain roughly the same alkaloid concentration per unit of plant weight. Fortunately, tansy ragwort plants are not very palatable; therefore, the large plants usually are not eaten. Poisoning often occurs when seedlings are ingested accidentally by cattle and horses in a pasture situation. Small seedlings are intermixed with desirable forage, and livestock cannot distinguish between the seedlings and desirable forage. Contaminated hay causes poisoning since the dry weed is consumed readily with the rest of the hay.

Removal of tansy ragwort from the diet, accompanied by feeding high-quality forage and grain, may stop subsequent liver damage and enable the animal to survive. Complete recovery is rare. Symptoms of the poisoning include swelling, inflammation of membranes around eyes and nose, diarrhea, blood in feces, rough

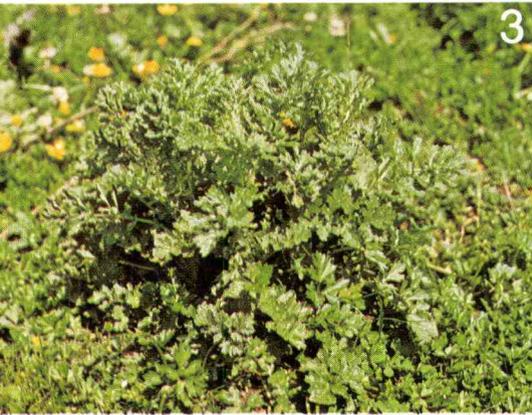


Photo captions

- 1 Tansy ragwort seedling is most difficult stage to identify.
- 2 The rosette stage is the most effective time for spraying with 2,4-D.
- 3 Spraying at the early bolting stage or later may not yield good control. Pulling will prevent the plant from going to seed, but the plant may regrow.
- 4 Flowering tansy ragwort has very distinct ray flowers. Each plant may produce 150,000 viable seeds.

5 Tansy ragwort leaves and the blade region near the tip are deeply lobed. Leaf color may vary from light to dark green.

6 Larvae of the cinnabar moth can reduce tansy ragwort populations to low levels in areas where other controls are not practical or economical.

7 Common groundsel (*Senecio vulgaris*) flower head, as with most groundsel, does not open any wider than pictured here. This plant generally grows to a height of 1 ½ feet; has no ray flowers.

8 Common tansy has no ray flowers on the button-like heads. Leaves resemble a fern and are larger than those of tansy ragwort.

coat, excessive fluid in the body cavity, and a droopy appearance.

Chemical control

The most effective and economical herbicide for control of tansy ragwort is 2,4-D. Excellent control has been obtained by spraying the rosette stage of growth in early spring or midfall after fall rains have initiated new growth. For small spray equipment, use 2 fluid ounces of 2,4-D for each gallon of water. Wet the plants thoroughly for good control. Plants die slowly after being sprayed. Spray on warm and sunny days when rain is not expected within 4 to 6 hours.

Controlling tansy ragwort with 2,4-D is less effective after the plants start sending up flowering stalks. It may be necessary to check the sprayed area about 10 days after the first herbicide application, to spray any plants missed by the first application. Spray rosettes and seedlings at any time when the plants are actively growing.

After the flower stalks start to elongate, other herbicides must be used to obtain control, usually combined with 2,4-D.

Spraying instructions

- When tansy is small or in rosette stage, use 2,4-D amine, low-volatile ester

(LVE) or emulsifiable acid form. Apply 1 to 2 pounds of active material per acre. If formulation is 4 pounds active per gallon, then use 1 to 2 quarts per acre in 20 or more gallons of water. When the ragwort plants are small, use lower rate. Use 2 fluid ounces of material for each gallon of water in handsprayer.

- When tansy is large or when flower stalk has elongated, use dicamba (Ban-vel) or dicamba plus 2,4-D. Apply 1 pound active (1 quart) of dicamba or 0.5 to 1 pound dicamba plus 2 quarts of 2,4-D per acre, in 20 or more gallons of water.

Always follow label instructions. Check the product label for grazing restrictions before applying herbicides. These materials will injure or kill clovers.

Even though sheep are not completely immune to the toxic effects of tansy, sheep grazing is an effective way to control tansy ragwort if the animals are confined by fences to the ragwort-infested area. Graze sheep in these areas for several successive years. Intensive grazing of ragwort-infested areas for a number of years results in the absence of the flowering stage, since seedlings and rosettes are consumed before they have a chance to flower and produce more seed.

Biological control

Biological control, using insects that feed exclusively on tansy ragwort, is effective in reducing weed populations and is recommended for areas where other controls are not practical or economical. Usually it requires several years to establish an insect population large enough to reduce plant population. Eradication is not complete, but a dynamic balance between low density of the weed and control is expected.

The cinnabar moth is the most widely distributed biological control agent used against tansy ragwort. The black and red adult moths are most active in June and July. Yellow eggs, in clusters of about 40 each, are deposited on the undersides of the plant leaves. Larvae hatch from the eggs in 1 to 3 weeks and feed on leaves and buds. Growth and development of larvae requires 4 to 6 weeks. Full-grown larvae are about 1 inch long, and can be recognized by their black and yellow banded pattern of coloration. (See illustration.) On reaching full size, larvae change to pupae and are inactive until the adult emerges the next spring.

The tansy ragwort flea beetle is another biological control agent. Adult beetles, less than $\frac{1}{8}$ inch long, tan in color, lay eggs in the crowns of the ragwort rosettes in the fall. Newly-hatched larvae burrow into and feed on roots of plants during winter and early spring and mature to the adult beetle form in late spring. Adults are relatively inactive until the shorter, cooler days of late summer or early fall when mating and egg laying commence again.

Both these insects are presently distributed in western Oregon and western Washington, and the object is to obtain complete coverage as soon as possible. Location and impracticality of other controls are of primary importance in choosing sites for future releases.

Because of the time required to establish insects for control, and since control is not complete once established, use of biological methods to control infestations found in eastern Washington, Idaho, and eastern and southern Oregon is not recommended.

Herbicides can provide complete control immediately; thus, infestations have no chance to spread.

Similar appearing plants

Two plants often confused with tansy ragwort are common tansy (*Tanacetum vulgare*) and common groundsel (*Senecio vulgaris*). Common tansy, often called "bitter buttons," "hind head," or "parsley fern," may grow to a height of 5 feet or more. It contains a poisonous oil called tanacetin. Because of the bitter taste of the plant, however, it is seldom eaten by livestock.

Common groundsel is an annual plant, growing 4 to 16 inches tall, with hollow stems. Leaves are alternate; lower leaves have stalks, upper leaves clasp the plant stem. All leaves are deeply lobed and toothed, but much smaller than tansy ragwort leaves. Flowers in each head have about 21 slender, black-tipped bracts at their base. Seeds are long and narrow, with a cluster of fine hairs longer than the seed attached to the upper end. It is seldom eaten by livestock.

What you can do

Tansy ragwort is being sighted in various intermountain areas of the Pacific Northwest. If you find this weed invading new areas, you can check or prevent its spread by doing one of the following:

- If it is in the flowering stage, first, carefully cover the plant with a plastic bag to prevent seed spread. Then pull up the plant, pour fuel oil on it, and burn it in a safe place.

- If it is in the rosette or seedling stage, pull the plant OR spray it with 2,4-D or dicamba, according to spray recommendations. Then report the sighting immediately to your county Extension agent or to the Department of Agriculture in your state.

Be sure to make note of the exact location of the sighting. Here are addresses and telephone numbers:

Oregon State Department of Agriculture
Salem, Oregon
(503) 378-3774

Washington State Department of Agriculture
Olympia, Washington
(206) 753-5046

Idaho State Department of Agriculture
Boise, Idaho
(208) 284-3240

If identification is uncertain, take a sample of the plant, including flowers, leaves and stems, to your Extension agent. County Extension offices are listed under County Government in the telephone directory for county-seat towns.



Pacific Northwest cooperative Extension bulletins are joint publications of the three Pacific Northwest states—Oregon, Washington, and Idaho. Similar crops, climate, and topography create a natural geographic unit that crosses state lines. Since 1949 the PNW program has published over 200 titles. Joint writing, editing, and production has prevented duplication of effort, broadened the availability of faculty specialists, and substantially reduced costs for the participating states.

This publication was prepared by Oregon State University Extension weed specialists in cooperation with the Oregon State Department of Agriculture and in consultation with Extension weed specialists of Washington State University and the University of Idaho.

Published and distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914, by the Oregon State University Extension Service, Henry A. Wadsworth, director; Washington State Cooperative Extension, J. O. Young, director; the University of Idaho Cooperative Extension Service, H. R. Guenther, director; and the U.S. Department of Agriculture cooperating.

The three participating Extension Services offer educational programs, activities, and materials without regard to race, color, national origin, or sex as required by Title VI of the Civil Rights Act of 1964 and Title IX of the Education Amendments of 1972. The Oregon State University Extension Service, Washington State University Cooperative Extension, and the University of Idaho Cooperative Extension Service are Equal Opportunity Employers. 25/25/25

Revised February 1983
